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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,012	02/01/2008	**Hyun Jin Kim**	4366-062688	6974

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EXAMINER	
COMSTOCK, NATHAN	
ART UNIT	**PAPER NUMBER**
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/593,012	KIM ET AL.	
	Examiner	Art Unit	
	NATHAN E. COMSTOCK	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 June 2008* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *09/03/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 8-9, and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. With respect to claim 8, it is unclear what is meant by the spherical particles are "used in an amount of 20 wt% or less based on the weight of the transparent polymeric material. Is the 20 % a weight percent (i.e. based on the weight of all of the elements of the layer of which it is a part), or a parts by weight (20 parts by weight particles per 100 parts polymer, corresponding to about 16% by weight? For purposes of examination, it will be construed as the former.

4. With respect to claim 9, it is unclear how the height of the protrusions corresponds to 50% or less of the diameter of the spherical particles. Is there a one-to-one correspondence between the two values, or some other linear or non-linear correspondence? For purposes of examination, it will be construed as a one-to-one correspondence.

5. Additionally with respect to claim 9, it is unclear how the height corresponds to the diameter of the particles where the particles do not necessarily have a single diameter. How is the height determined where the diameter of the particles varies within a range of sizes; is the height 50% or less of at least a single particle, the smallest particle, the largest particle, the

average particle, or something else? For purposes of examination, the diameter will be construed as the average diameter of the particles on a particle (as opposed to a weight) basis.

6. Claim 11 is unclear for the same general reasons as claim 9, including lack of clarity of how particle diameter corresponds to layer thickness, and determination of particle diameter.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-6, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. No. 5,995,288 to Kashima et al.

9. Kashima discloses an optical sheet 10 (corresponding to Applicant's optical film) comprising a transparent base material sheet 12 (corresponding to Applicant's base layer) and triangular unit prisms 14 (corresponding to Applicant's structured layer) on one side, which define a prism surface 16 (corresponding to Applicant's plurality of three-dimensional structures) (col. 10, lines 59-65 and FIGS. 1-2). The unit prisms 14 are adjacent each other so that their ridge lines are in parallel (corresponding to Applicant's parallel array of linear isosceles prisms arranged side by side; see FIG. 1). A coating layer 18 (corresponding to Applicant's damage prevention layer) is provided on the opposite side of the base material sheet 12, and the coating 18 comprises spherical beads 20 (corresponding to Applicant's spherical particles) (col. 10, line 65 to col. 11, line 4). The coating 18 also comprises a transparent binder resin

(corresponding to Applicant's transparent polymeric material) (col. 12, lines 63-65). The beads project from the surface of the coating 18 (corresponding to Applicant's protruding surface portions which are formed by the particles protruding from the polymeric material (col. 11, lines 5-22). The beads are formed out of resins, such as polystyrene (a polyolefin) (corresponding to Applicant's organic beads/olefin beads) (col. 12, lines 25-37). The base sheet and the unit prisms 14 may each be formed out of, among others, polyethylene terephthalate, polycarbonate, and epoxy acrylate (corresponding to Applicant's polyethyleneterephthalate, polycarbonate, and epoxy resins/curing resins) (col. 12, lines 25-37). The particles have a particle size of 1 to 10 μm and are 1 μm or less in half bandwidth of distribution of particle diameters (i.e. are monodisperse) (col. 11, lines 1-4).

10. With respect to claim 10, the particles may be made out of a bridge structured acryl resin, having a refractive index of 1.49 (corresponding to Applicant's refractive index of 1.4 to 1.5) (col. 21, lines 10-11).

11. Therefore, claims 1-6 and 10 are rejected as anticipated by the cited prior art.

12. Claims 1-2, 4, 6, 9, and 11-12 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Pat. App. Pub. No. 2002/0114169 to Harada et al.

13. Harada discloses a light diffusion sheet 1 (corresponding to Applicant's optical film) comprising a base sheet 2 (corresponding to Applicant's base layer), a light diffusion layer 3 (corresponding to Applicant's structured layer) on the front face of the base sheet 2, and a sticking-inhibiting layer 4 (corresponding to Applicant's damage prevention layer) laminated on the rear face of the base sheet 2 (paragraph [0023]). The base sheet is formed of a transparent synthetic resin, such as polyethylene terephthalate, polycarbonate, polystyrene, or polyolefin,

among others (corresponding to Applicant's polyethyleneterephthalate, polycarbonate, polystyrene, polypropylene and polyethylene (polypropylene and polyethylene are two commonly used polyolefins)) (paragraph [0024]). The light diffusion layer 3 comprises a binder, wherein the binder is a curable resin (corresponding to Applicant's curing resin) and is transparent (paragraph [0025]). As can be seen in FIG. 2, the surface of the light diffusion layer 3 has a plurality of three-dimensional structures thereon (corresponding to Applicant's plurality of three dimensional structures). The sticking-inhibiting layer 4 comprises a binder 7 formed of an ionizing radiation curable resin, and is preferably colorless and transparent (corresponding to Applicant's transparent polymeric material) and the layer 4 may also comprise beads 8 dispersed therein (paragraphs [0030] and [0035]). The beads are preferably spherical (the beads 8 may be the same as the beads 6, and the beads 6 are substantially spherical; paragraphs [0026] and [0030]) and may be formed of acrylic (corresponding to Applicant's particles of acrylic/organic particles; paragraph [0026]). As can be see in FIG. 2, the beads 8 protrude from the binder 7 (corresponding to Applicant's protruding surface portions formed by the particles protruding from the polymeric material), the beads 8 protrude by less than half the diameter of the beads (corresponding to Applicant's protruding surface portions have a height corresponding to 50% or less of the diameter of the particles), and the thickness of the sticking-inhibiting layer 4 has a thickness which is between 50% and 100% of the diameter of the beads (corresponding to Applicant's thickness of the damage preventing layer with the exception of the protruding Surface portions in the range of 50 % to less than 100% of the diameter of the particles). Figure 2 also shows that the beads 8 are arranged in a monolayer (i.e. not stacked) (corresponding to Applicant's particles distributed in a monolayer).

14. Therefore, claims 1-2, 4, 6, 9, and 11-12 are rejected as anticipated by the cited art.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

16. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

17. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

18. Claims 1, 3, 5-8, and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. App. Pub. No. 2003/0180529 to Nagami in view of U.S. Pat. No. 6,474,827 to Shinohara et al.

19. Nagami discloses an anti-newton ring sheet (corresponding to Applicant's optical film) comprising an anti-newton ring layer (corresponding to Applicant's damage prevention layer), a transparent polymer film 10 (corresponding to Applicant's flatbase layer), and a layer having an optical function 12, which may be a prism layer (corresponding to Applicant's optically structured layer) (paragraphs [0013] and [0025]). The anti-newton ring layer comprises a binder resin (corresponding to Applicant's transparent polymeric material; the binder resin is preferably a resin having optical transparency, such as thermoplastic, thermosetting, or ionizing radiation curable resins, see paragraph [0021]) and particles (corresponding to Applicant's particles) (paragraph [0016]). The anti-newton ring layer has an uneven surface including protrusions (corresponding to Applicant's protruding surface portions).

20. The particles are spherical (corresponding to Applicant's spherical particles), monodisperse (corresponding to Applicant's monodispersed particles) and have a particle size between 0.4 μm and 2.0 μm (corresponding to Applicant's average diameter of 0.1 to 15 μm) (paragraph [0017]), and are present in the anti-newton ring layer in an amount of not more than 3 parts by weight based on 100 parts by weight of binder resin (corresponding to Applicant's 20 wt% or less).

21. The particles may comprise silica (corresponding to Applicant's particles of silicon dioxide/inorganic particles) or acrylic resin (corresponding to Applicant's acrylic particles/ organic particles), among others (paragraph [0019]).

22. The anti-newton ring layer may contain anti-static agents (corresponding to Applicant's anti-static agents) (paragraph [0025]). With respect to claim 14, while Nagami does not disclose what sort of material the anti-static agent might comprise, the material would necessarily be one of a non-ionic, cationic, or anionic based material (corresponding to Applicant's anionic-based material, cationic based material, or non-ionic based material) because all materials must necessarily fall into one of those three groups.

23. The transparent polymer film may be formed of polyethylene terephthalate, polycarbonates, polyethylenes, polypropylenes, or polystyrenes, among others (corresponding to Applicant's polyethyleneterephthalate, polycarbonate, polypropylene, polyethylene, or polystyrene) (paragraph [0015]).

24. While Nagami does not explicitly state that the uneven surface is formed by the particles protruding from the binder, one of ordinary skill in the art at the time of the invention would have understood that the unnevenness and protrusions on the surface of the anti-Newton ring layer were formed by the particles protruding (corresponding to Applicant's particles protruding).

25. Nagami also does not explicitly disclose that the prism sheet comprises a plurality of three-dimensional structures on its first surface, or that the prism sheet is formed of a curing resin, or that the three dimensional structures include any one selected from the group consisting of a parallel array of linear isosceles prisms arranged side by side, an array of pyramidal prisms, an array of conical prisms, an array of spherical prisms, and an array of non-spherical prisms.

26. Shinohara discloses a prism sheet 70, which, as can be seen in FIG. 36, has a plurality of isosceles prisms on the surface thereof (corresponding to Applicant's three-dimensional structures/parallel array of linear isosceles prisms arranged side by side) (col. 14, lines 55-57).

27. It would have been obvious to one of ordinary skill in the art at the time of the invention to form the prism sheet of Nagami shaped like the prism sheet of Shinohara. One of ordinary skill in the art would have been motivated to do so because Shinohara discloses that the prism sheet can change the direction of incident light from the x-direction to the z-direction (col. 14, lines 55-59).

28. Therefore, claims 1, 3, 5-8, and 13-14 are rejected as obvious over the cited art.

Double Patenting

29. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

30. A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

31. Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

32. Claims 1-3, 9, and 13 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-2, and 4-6 of copending Application No. 12/519,686. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the '686 application would anticipate the claims of the instant application, as follows: The '686 application claims an optical sheet (corresponding to the optical film in the instant application), comprising a transparent substrate (corresponding to the base layer in the instant application), and an optical structure layer formed of a curable resin (corresponding to the structured layer in the instant application) comprising a plurality of optical structures (corresponding to the three-dimensional structures in the instant application) (claim 1). The plurality of optical structures may be conical, trigonal pyramidal, spherical or non-spherical (corresponding to Applicant's structures being pyramidal, conical, semi-spherical, or non-spherical) (claim 2). A particle dispersion layer (corresponding to the damage prevention layer in the instant application) comprising a transparent binder (corresponding to the transparent polymeric material in the instant application) and particles (corresponding to the spherical particles in the instant application) is formed on the opposite side of the transparent substrate from the optical structure layer, and the particles protrude from the particle dispersion layer (corresponding to the protruding surface portions formed by the particles protruding from the polymeric material in the instant application) (claim 4). The particles protrude such that the height of the protruding portions of the particles does not exceed 50% of a particle size (corresponding to the protruding portions formed to have a height corresponding to 50% or less of the diameter of the particles in the instant application) (claim 5).

The particle dispersion layer comprises an antistatic agent (corresponding to the anti-static agent in the instant application) (claim 6).

33. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

34. Claims 1-3, 9, and 13 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 10, and 12-14 of copending Application No. 12/519,699. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the '699 application would anticipate the claims of the instant application, as follows: The '699 application claims an optical sheet (corresponding to the optical film in the instant application), comprising a transparent substrate (corresponding to the base layer in the instant application), and an optical structure layer formed of a curable resin (corresponding to the structured layer in the instant application) comprising a plurality of optical structures (corresponding to the three-dimensional structures in the instant application) (claim 1). The plurality of optical structures may be conical or tetrahedral (corresponding to Applicant's structures being pyramidal or conical) (claim 10). A particle dispersion layer (corresponding to the damage prevention layer in the instant application) comprising a transparent binder (corresponding to the transparent polymeric material in the instant application) and particles (corresponding to the spherical particles in the instant application) is formed on the opposite side of the transparent substrate from the optical structure layer, and the particles protrude from the particle dispersion layer (corresponding to the protruding surface portions formed by the particles protruding from the polymeric material in the instant application) (claim 12). The particles protrude such that the height of the protruding

portions of the particles does not exceed 50% of a particle size (corresponding to the protruding portions formed to have a height corresponding to 50% or less of the diameter of the particles in the instant application) (claim 13). The particle dispersion layer comprises an antistatic agent (corresponding to the anti-static agent in the instant application) (claim 14).

35. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Conclusion

36. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NATHAN E. COMSTOCK whose telephone number is (571) 270-1133. The examiner can normally be reached on Monday through Thursday, 9am-6pm Eastern Standard Time.

37. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on (571) 272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

38. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R. Sample/
Supervisory Patent Examiner, Art Unit 1794

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29 January 2010